

RISE Planning Committee



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Affairs Director, Napa Valley
Vintners



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Winemaker, Massican Winery and
Board Member, Napa Valley
Grapegrowers



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Assistant Winemaker & Environmental
Manager at Spottswoode Estate
Vineyard & Winery



EVYN CAMERON

Consulting Winemaker



MARTIN REYES, MW

Partner, WineWise; Founder, Reyes Wine
Group and Co-Founder, Wine Unify



TOD MOSTERO

Director of Viticulture &
Winemaking at Dominus Estate

Napa Green Team



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MEGAN SCOTT
Winery Program Manager



BEN MACKIE
Vineyard Program Manager



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Climate & Soil Specialist



MARISA TAYLOR
Program Coordinator



MEGHAN VERGARA
Social Media Manager



BILL BENNETT
Winery Program Engineer



If not here,
WHERE?

If not now,
WHEN?

Jancis Robinson.com



Jancis Robinson ARTICLES TASTING NOTES FORUM MAPS LEARN OXFORD COMPANION BOOKS ETC GLASSES

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Fine wine writing aplenty



TASTING ARTICLES Spottswoode retrospective

A thoroughly uplifting series of rather atypical Napa Cabernets. One major reason I'm so glad that St Helena goes to its own map and page in the new World Atlas of Wine is that two of my favourite Napa Valley wine producers are based there, coincidentally both run by women and both of them famous for the subtlety and restraint of their wines. There is Carly Corison's 'superfeminine' winery and...

16 Oct 2019
Jancis Robinson



TASTING ARTICLES

Marqués de Riscal - past and future

A look into the past and a glimpse of the future. A...

15 Oct 2019
Alistair Cooper MW



ALDER ON AMERICA

Powerless to pause harvest in California

How will northern California's power cuts affect this year's vintage? Last week...

15 Oct 2019
Alder Yarrow



INSIDE INFORMATION Cirò - the past

For the first of three reports, Walter ventures to the far south...

16 Oct 2019
Walter Speller

A brand new atlas

The 8th World Atlas of Wine
An international classic work



Find out more



LEARN

Grape Varieties

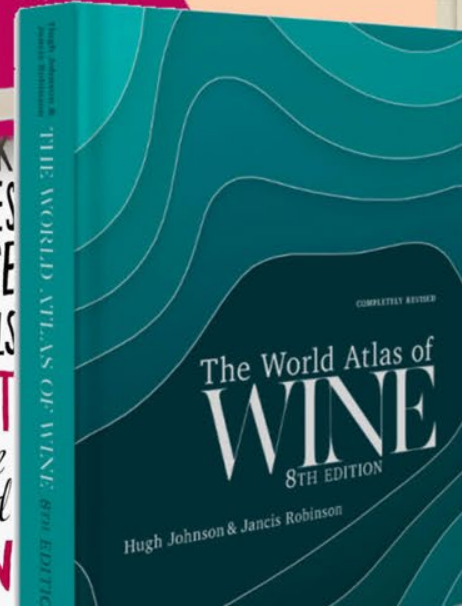
Wine is a combination of place and grape variety, of which there is a baffling array.

INSIDE INFORMATION

Diary of a Willamette cellar rat - part 6

Samantha Cole-Johnson explains how, where and how often this week. I don't know...

14 Oct 2019
Guest contributor



WINE GRAPES

*A complete guide to 1,368
vine varieties, including
their origins and
flavours*

JANCIS ROBINSON

WINE MYTHS, OVERPRICED WINES
BOTTLES AS GIFTS, HOW TO CHOOSE
THE 24-HOUR DECODING LABELS
CROWD PLEASERS, WINE EXPERT
By the most respected wine
JANCIS critic in the world
OLD v NEW WORLD, ROBINSON

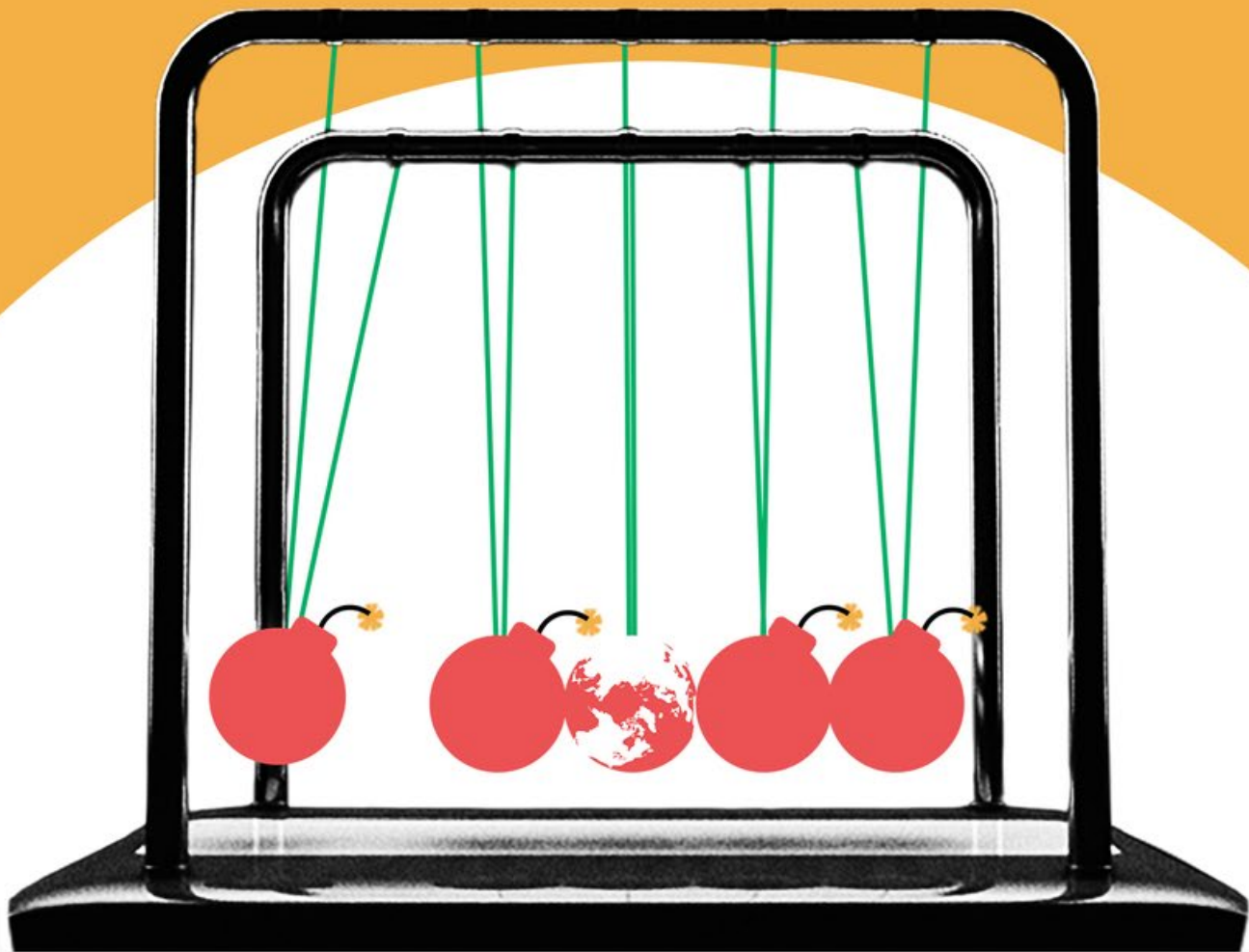
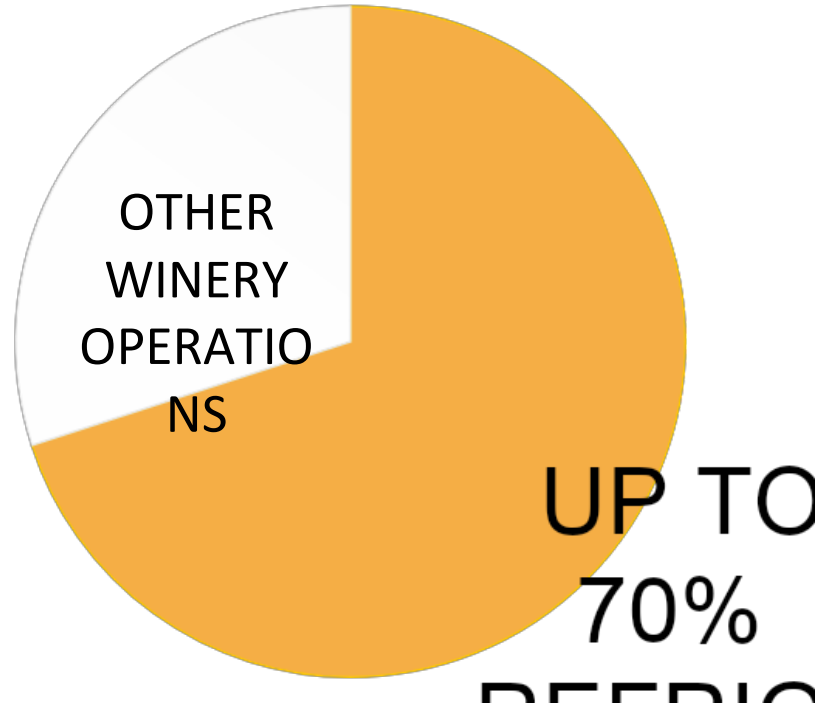


Image Credit: United Nations Climate Action





Image Credit: Paulmueller.com



Source: AWRI



CARBOXY
METHYL
CELLULOSE (CMC)

POTASSIUM
POLYASPARTATE (KPA)

AVERAGE NUTRITIONAL VALUES	Per 100 ml
Caloric value (kJ/kcal)	

Ethyl alcohol

Fat

Carbohydrates
sugars

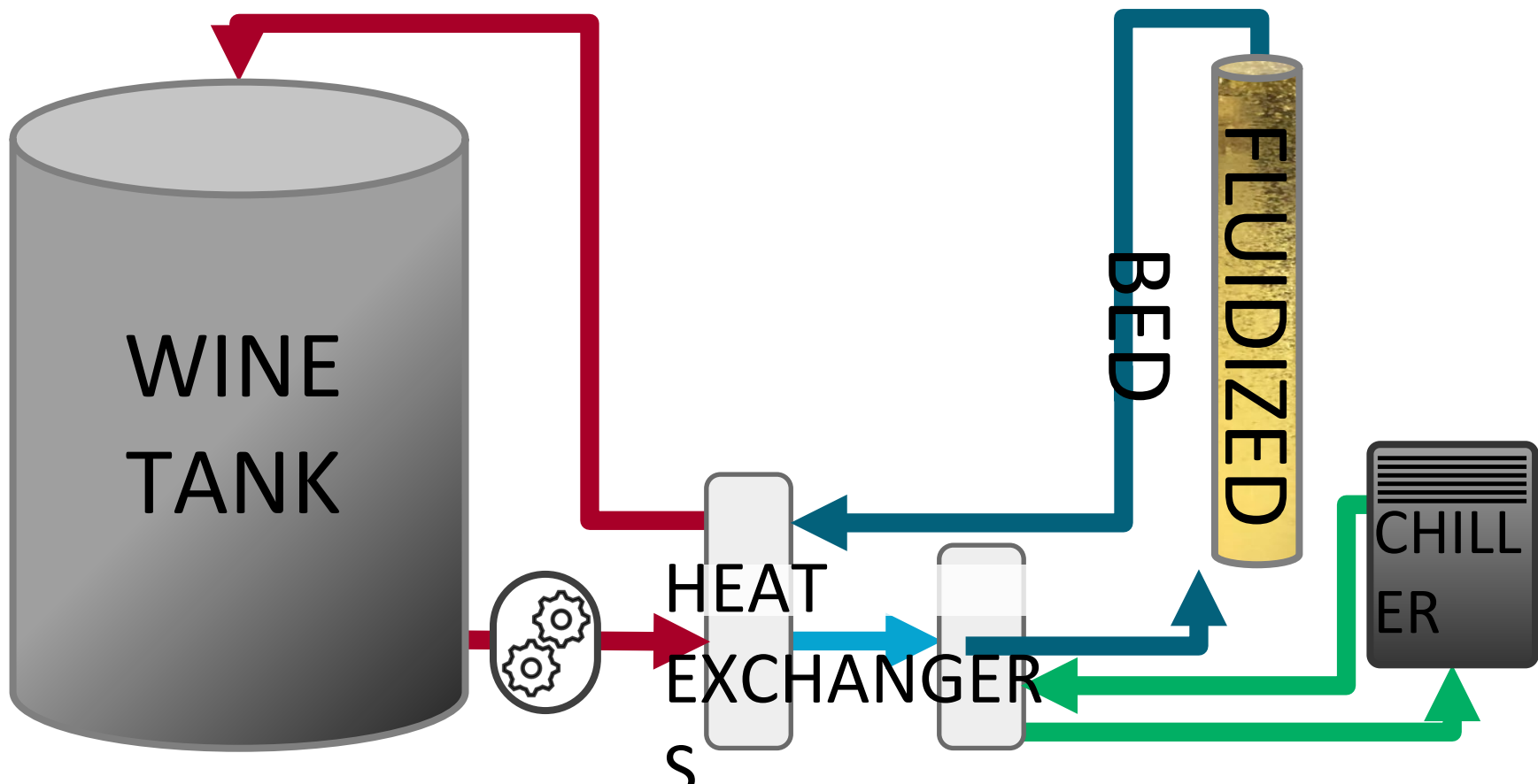
Protein

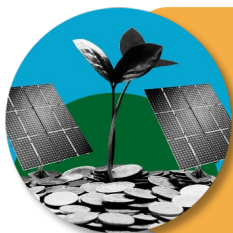
INGREDIENTS: GRAPES (SAUVIGNON BLANC) ACID (TARTARIC ACID), STABILIZERS (CARBOXY METHYL CELLULOSE, CUPRIC CITRATE), PRESERVATIVES (SULPHUR DIOXIDE).



Image Credit: United Nations Climate Action







RECAPTURES

REFRIGERATION ENERGY



ELIMINATES WINE LOSSES

& ADDITIVES



REDUCES WATER AND

CHEMICAL USE



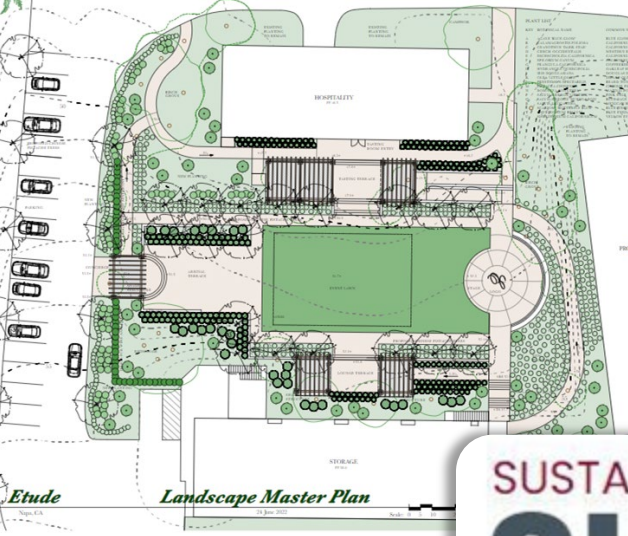
PROMOTES A CIRCULAR

ECONOMY



THE TEAM





Environmental Impact

Reducing the weight of our 19 Crimes Proclamation tier bottles by 147 grams will change carbon emissions by

-27%



SUSTAINABILITY

SHARK TANK







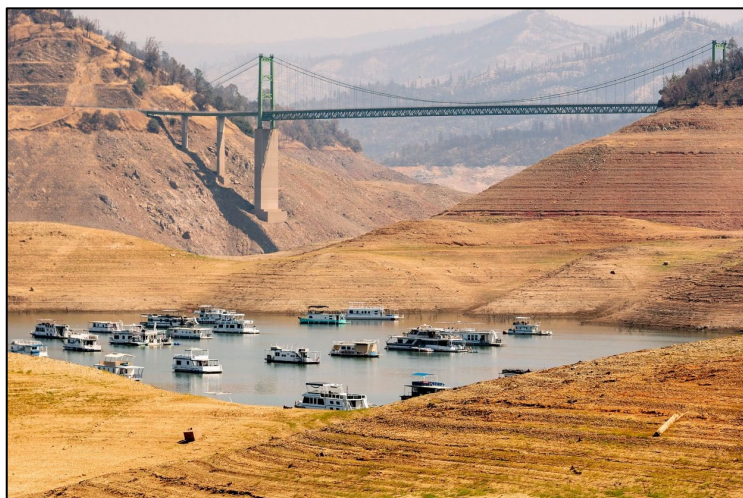
LIVING ROOM SALON

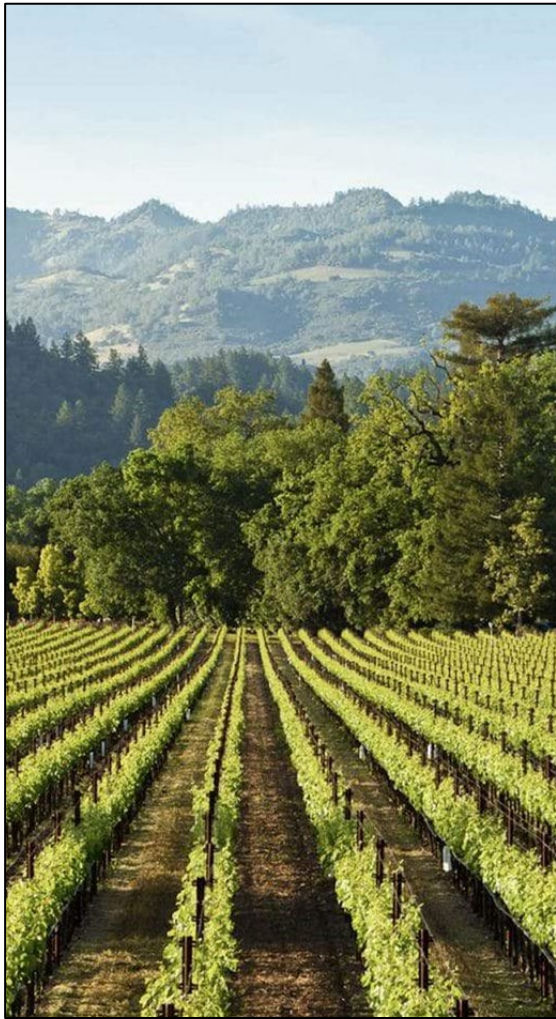
THE WATER : ENERGY : CLIMATE NEXUS

Expert Speakers:

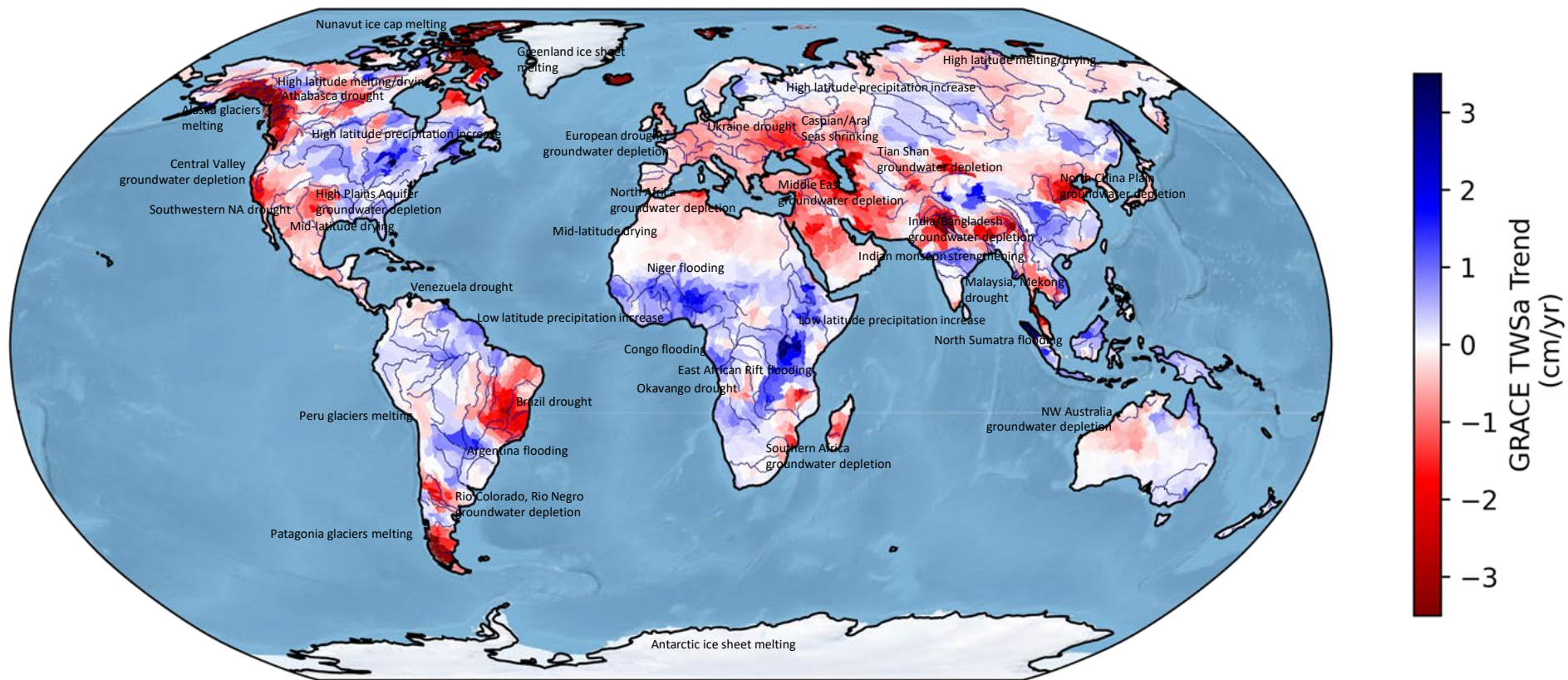
- **Erica Löfving**, Sustainable Winegrowing Consultant
- **Jay Famiglietti**, Global Futures Professor, ASU School of Sustainability and former Senior Water Scientist, NASA Jet Propulsion Laboratory
- **Matt Crafton**, Winemaker, Chateau Montelena Winery
- **Jason Moulton**, Winemaker, Whitehall Lane Winery





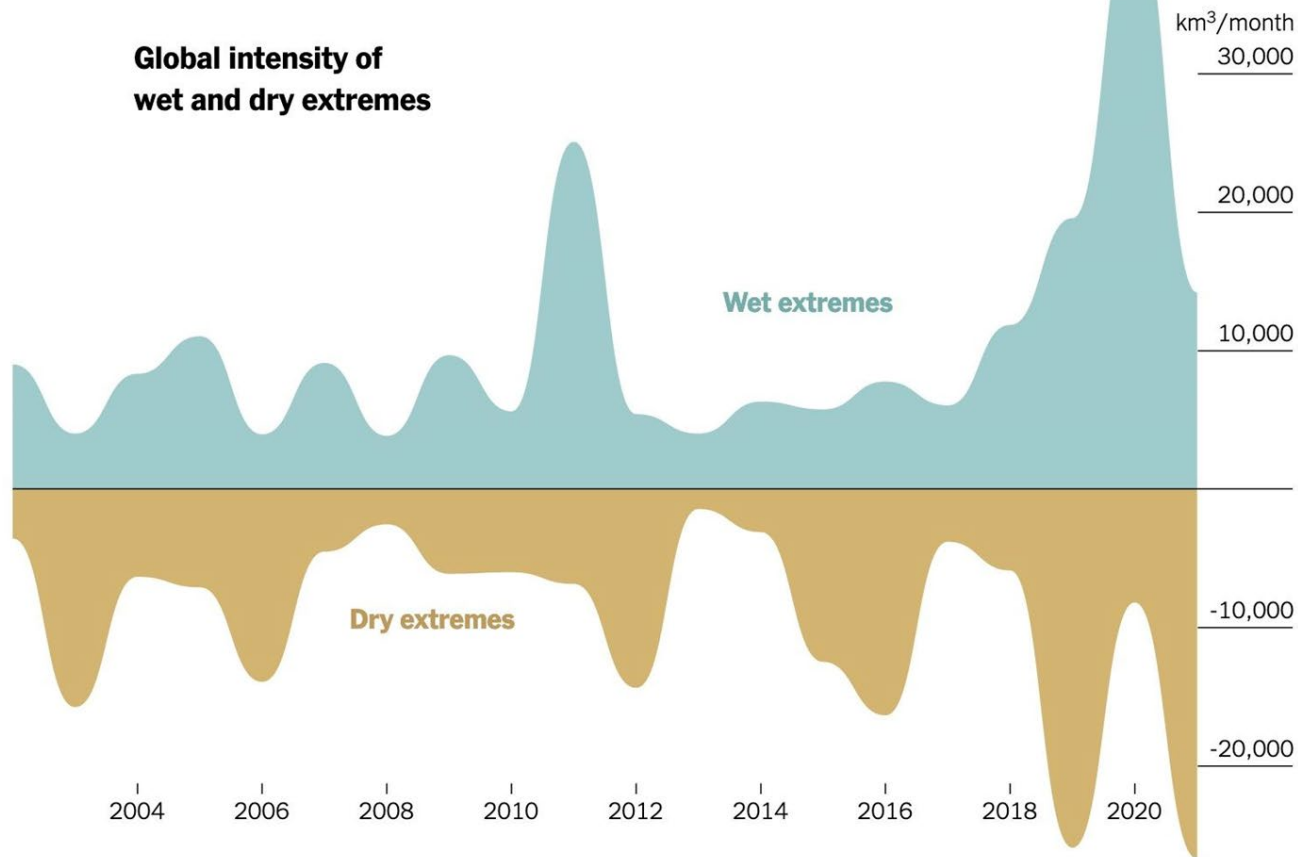






Rodell, Famiglietti, et al., *Nature*, 2022; Chandanpurkar, Famiglietti, et al., 2023, in prep.

Global intensity of wet and dry extremes



NY Times, March 14, 2023

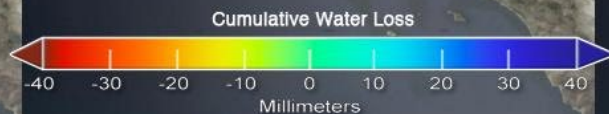
California Drying

Cumulative water storage changes from NASA GRACE (2002-2014)

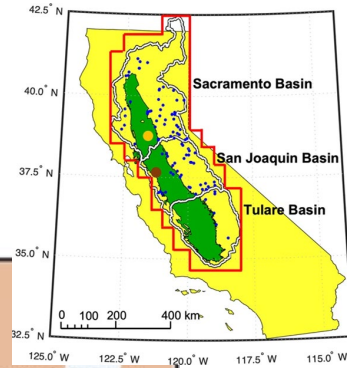
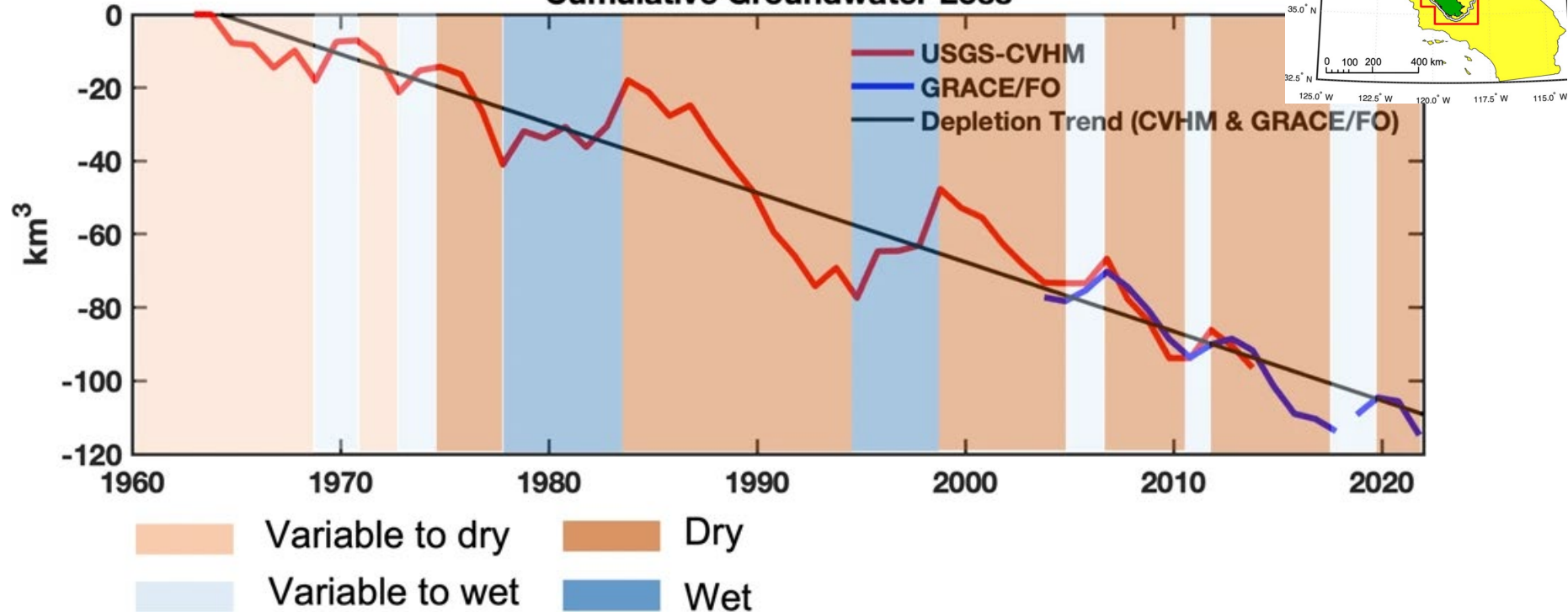
June 2002

June 2008

June 2014

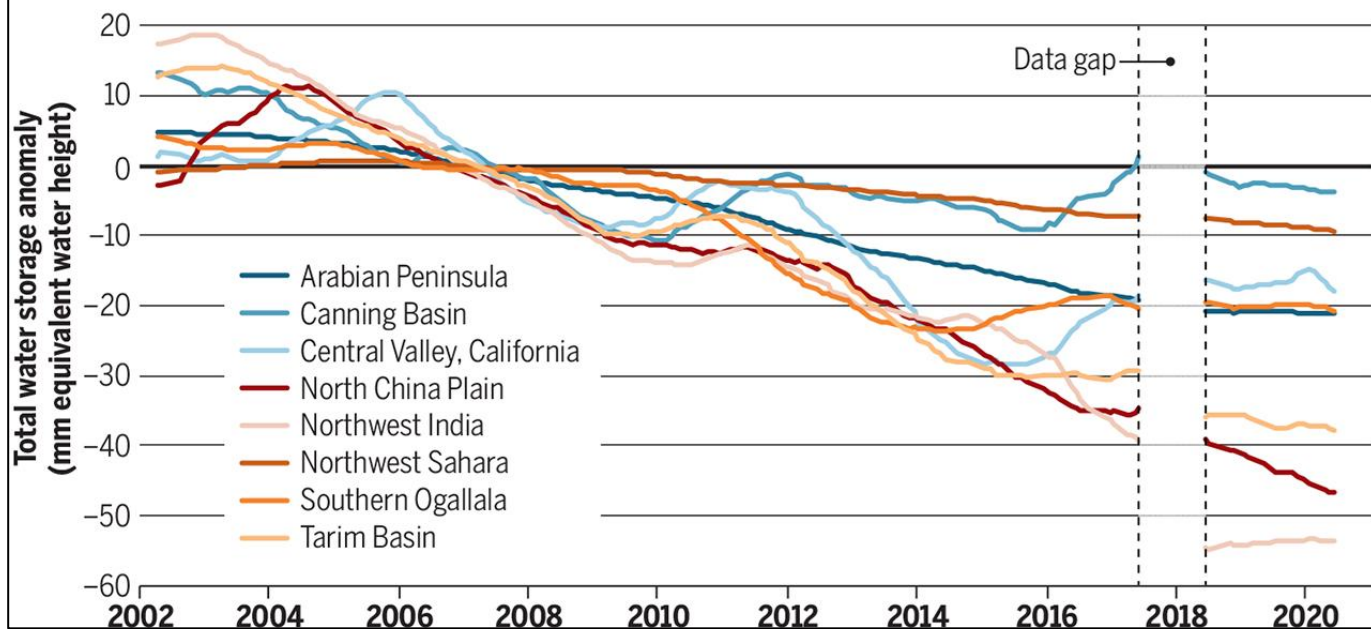


California's Central Valley Cumulative Groundwater Loss



Watching groundwater depletion from the sky

Changes in total water storage are shown for regions within several mid-latitude aquifer systems from the NASA Gravity Recovery and Climate Experiment (GRACE) and follow-on (GRACE-FO) satellite missions. Vertical dashed lines indicate the data gap between the GRACE and GRACE-FO missions. Monthly storage changes are reported as anomalies for the period from March 2002 to June 2020 with 24-month smoothing.



“If you would persuade, appeal to interest and not to reason.”

- Benjamin Franklin, Poor Richard's Almanack



CLIMATE & WINE SYMPOSIUM

Energy & Water – Are they Really Different?



CLIMATE & WINE SYMPOSIUM

How Do We Bank this Precious Resource?

Groundwater?

What else can we do?

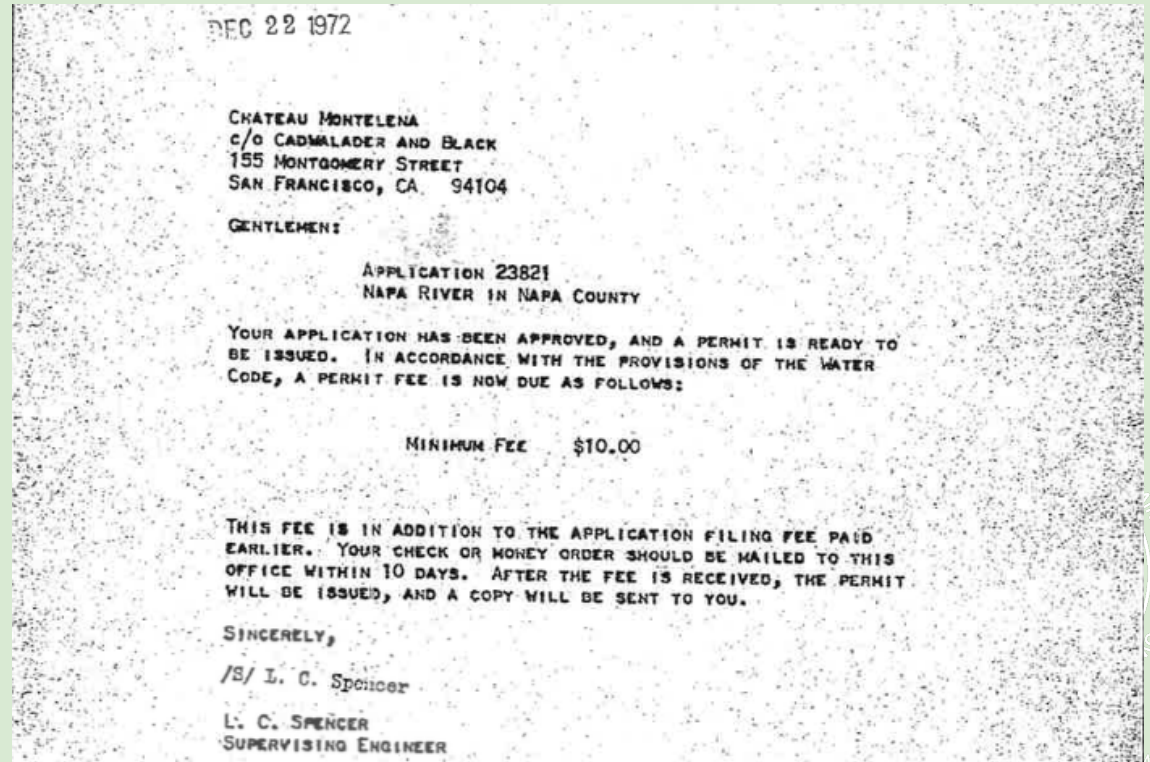


CLIMATE & WINE SYMPOSIUM

Let's Build a Reservoir!

Oh wait.....

- SWRCB
 - CDFW
 - NOAA/NMFS
 - CEQA
- Here's an Example:



You're Right, Matt – It's Time for the Stick:

More Regulation?



CLIMATE & WINE SYMPOSIUM

Well, Maybe There's a Better Way: The Carrot

- California Solar Initiative
 - 2007 - \$3.3B program to install 3000 MW of distributed solar by 2017 (1750MW in the General Market Program)
 - 2021 – 11,106 MW had been installed at 1.26 million sites
 - Incentives: Tax Credits, Regulatory Relief, Encourage Technology Development
- Can we do this with water?



Let's Build a ~~Reservoir~~ Storage!

- Small Scale - Wineries
- What about TMDL and the Fish?
- Utility Scale Storage
 - Deliver water to farmers so they don't need to pump groundwater
 - Oroville – releasing 35,000 CFS on 3/18 = 2900 acre feet per hour = 943 million gallons / hour = every hour is water for an entire year for 3000-6000 households
 - Prop 1 (2014).....nothing has been built



If You Don't Believe that the Carrot Works, Ask the Class of 1972....

- Revenue Act of 1971

- Dollar for dollar tax credit for vineyards, orchards, machinery and equipment
- 25 new wineries founded in 1972 alone – Montelena, Silver Oak, Caymus, Jordan, Clos du Val, etc
- CA grape acreage more than doubles from 1968 to 1977



The Carrot or the Stick?

“Never, ever, think about something else when you should be thinking about the power of incentives.”

— Charlie Munger



Solutions to prepare for a better future in Napa Valley



NAPA VALLEY



“Whitehall Lane Winery and Vineyards is a local family-owned and operated winery in the Rutherford Appellation of Napa Valley, dedicated to growing and making premium, world-class wines, while providing excellent hospitality with Napa Green certified and sustainable practices”



What is Whitehall Lane doing to play its part?

- Energy efficiency
 - Solar
 - Refrigeration via glycol-powered cooling
 - Avoiding unnecessary production goals
- Water conservation in the winery
 - Changing wine protocols
 - Avoid quarterly racking>>>less water
 - Steaming and controlled barrel washing
- Water conservation strategies in the vineyard
 - Galcon, Ceres, Geovit, VFDs in wells
- Napa Green Certified



Conversion to solar



- Solar panels covering most of our allowable roof area
- Metrics of winery power use
 - >15 kWh/case needs improvement
 - 10-15 kWh/case is okay
 - <10 kWh/case is excellent
 - Whitehall Lane at 7.2 kWh/case!!!



Water Conservation in the Winery

- Steaming post racking not only melts tartrates, but it can also kill microbes and rehydrate barrels
- Reduces amount of barrel washing time. Less hot water, resulting in lower consumption of both propane and natural gas
- Steaming can also melt tartrates off of tanks if you use it correctly post cold-stabilization. Saves on time, water, pressure washing, chemicals, etc.



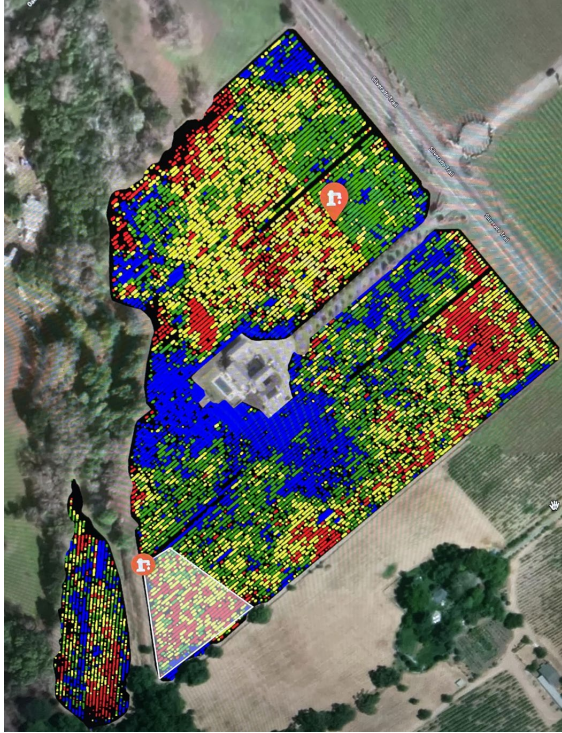
Water Conservation in the Winery



- Tom Beard Company barrel washer
 - Programs hot/cold/ozone water
 - Collect lees
 - Times out hot water rinsing post steaming
 - 30 second wash = 2.5 gallons per barrel
- Waste water settling system and leach field post-treatment>>>potassium based chemicals a bonus
 - Retention ponds? How much \$\$\$? How much regulation?
- Metrics in the winery
 - 3-6 gal/case of wine is excellent
 - Whitehall Lane at 8-10 gal/case!!!
 - Room to improve



Water Conservation in Vineyards



- Ceres aerial imaging flights
 - NDVI, Water Stress, and thermal imaging
 - Detects leaks, weak/diseased vines, or overwatering
- Galcon remote irrigation technology
 - Cloud-based irrigation software
 - Remote solenoids and flow meters
 - Can control via time vs. volume and see leaks through alert settings
- VFD (variable frequency drive) installations on wells
 - Recent drought led to drop in water table, concentrating minerals and changing pH in water
 - Corroded pipes and increased back pressure
 - In sequence with cycle stop valves, can increase well casing depreciation
 - Clogs emitters over time





Wintershall and Fawn Park Block 11

Yearly	Peak	Spring	Autumn	CPM in	Yield
CS ₂	418	774	424	11	

[illegible]

Chlor	11	1
brakes	1.34	0.01

Looking ahead to the future: Expect the unexpected





Thank you to the people
here at RISE who made this
event possible!



